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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/086,910	02/28/2002	Ching Yao Huang	Huang 14-1-2-1	1674

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EXAMINER

CHO, UN C

ART UNIT	PAPER NUMBER
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2617

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/27/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/086,910	Applicant(s) HUANG ET AL.	
	Examiner Un C. Cho	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 1 and 18 are objected to because of the following informalities:

Claims 1 and 18 have been previously amended therefore, it should be labeled as (Previously Presented) instead of (Currently Amended).

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 – 10 and 13 – 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Streter (US 6,456,858 B1) in view of the admitted prior art (hereinafter APA).

Regarding claim 1, Streter discloses an apparatus for wirelessly paging a mobile device using a network operating according to multiple wireless technologies based at least in part on a technological capability of the mobile device (MTSO (Fig. 1, 18) wirelessly sending a control command, in a paging channel, through one of the base stations (Fig. 1, 22 or 24,) to a dual-mode (CDMA/AMPS) wireless telephone using CDMA protocol; Streter: Col. 6, lines 50 – 54 and Col. 9, line 52 through Col. 10, line 21), the apparatus comprising:

processing circuitry configured to access information associated with the technological capability of the mobile device to determine whether the wireless technology of the mobile unit corresponds to at least one of the multiple wireless technologies of the network and the paging request being generated based at least partially on the technological capability of the mobile device when the wireless technology of the mobile unit corresponds to at least one of the multiple wireless technologies of the network (control processor (Fig. 1, 52) within MTSO knows what type of system the wireless telephone is registered with, such as digital wireless communication system (Fig. 1, 32), therefore, since MTSO knows it beforehand it would have been obvious for the control processor to generate a control command, in a paging channel, for the wireless telephone based on the appropriate protocol; Streter: Col. 7, lines 38 – 43, line 57 through Col. 8, line 9, Col. 3, lines 12 – 20, and Col. 9, line 52 through Col. 10, line 21).

However, Streter as applied above does not specifically disclose generating a paging request that is used to determine a geographic area that includes the mobile device. In an analogous art, the admitted prior art remedies the deficiencies of Streter by disclosing such limitation on Page 2, lines 11 – 24, whereas a paging request is sent out to sets of cells that are in communication with the MSC to locate the mobile device. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the technique of the admitted prior art to the system of Streter in order to provide an

effective method of locating a mobile terminal in a wireless network through a paging request.

Regarding claim 2, Streter in view of APA as applied above discloses wherein the paging request is based at least partially on an identifier associated with the mobile device to be paged (Streter: Col. 7, lines 19 – 43).

Regarding claim 3, Streter in view of APA as applied above discloses wherein the apparatus is in communication with a wireless network that comprises at least one cell (MTSO (Fig. 1, 18) is connected to multiple base stations (Fig. 1, 16, 22 and 24) whereas each base station represents at least one cell site), said at least one cell being configured to receive the paging request generated by the processing circuitry and to wireless broadcast the paging request via an antenna of the network to enable said at least one cell to wirelessly communicate with the mobile device being paged (control processor (Fig. 1, 52) instructs the cell site processor (Fig. 2, 60) within the base station (Fig. 2, 22) to generate and transmit the control command to a selected dual-mode wireless telephones; Streter: Col. 10, lines 22 – 46 and Col. 11, line 58 through Col. 12, line 3).

Regarding claim 4, Streter in view of APA as applied above discloses wherein said technological capability includes a wireless protocol technology that said at least one cell utilizes to wirelessly broadcast paging requests to mobile device that have the technological capability to wirelessly communicate using said wireless protocol technology (at least one cell site (digital base station, Fig.

1, 22) utilizes digital wireless system such as CDMA protocol to wirelessly send a control command to a dual-mode wireless telephone operating in a CDMA protocol; Streter: Col. 5, lines 30 – 39 and Col. 11, line 65 through Col. 12, line 3).

Regarding claim 5, Streter in view of APA as applied above discloses wherein said technological capability corresponds to a band class over which said at least one cell is configured to wirelessly broadcast paging requests and over which the mobile device being paged is configured to wirelessly communicate (Streter: Col. 9, lines 24 – 43 and APA: Page 2, lines 25 – 28).

Regarding claim 6, Streter in view of APA as applied above discloses wherein said technological capability corresponds to one or more specific channels over which the mobile device being paged is capable of communicating and over which said at least one cell is capable of communication with mobile device (Streter: Col. 9, lines 24 – 56).

Regarding claim 7, Streter in view of APA as applied above discloses wherein the processing circuitry (control processor, Fig. 1, 52) is comprised at a MSC (MTSO, Fig. 1, 18) of the wireless network, and wherein the technological capability of the mobile device is stored at the MSC of the wireless network, the MSC being the home MSC of the mobile device (MTSO having an HLR which includes subscriber profile information for each of the registered subscribers of the dual-mode wireless telephones; Streter: Col. 7, lines 24 – 33).

Regarding claim 8, Streter in view of APA as applied above discloses wherein the technological capability of the mobile device is stored in a HLR of the home MSC (Streter: Col. 7, lines 24 – 33).

Regarding claim 9, Streter in view of APA as applied above discloses wherein the technological capability of the mobile device is stored in a VLR of the MSC (Streter: Col. 7, lines 24 – 33 and lines 54 – 56):

Regarding claim 10, Streter in view of APA as applied above discloses wherein when the mobile device is to be paged, the MSC generates a paging request that is broadcast only to mobile devices that have the same technological capability of the mobile device being paged (control processor within MTSO generates and outputs a control command only to a group of dual-mode wireless telephones; Streter: Col. 7, lines 57 – 65 and Col. 11, line 65 through Col. 12, line 3).

Regarding claims 13 and 21, the claims are interpreted and rejected for the same reason as set forth in claim 4.

Regarding claim 14, Streter in view of APA as applied above discloses wherein said multiple wireless technologies of the network correspond to multiple band classes (AMPS system working within the 800MHz cellular band; Streter, Col. 1, lines 22 – 26 and CDMA PCS system is currently assigned at 1930 – 1990MHz band for the forward CDMA channel and 1850 – 1910MHz for the reverse CDMA channel; Streter: Col. 9, lines 38 – 43 and APA: Page 2, lines 25 – 28) over which said MSC and said at least one cell are configured to wireless

broadcast paging requests and over at least one of which the particular mobile device being paged is configured to wirelessly communicate (at least one cell site (digital base station, Fig. 1, 22) utilizes digital wireless system such as CDMA protocol to wirelessly send a control command to a dual-mode wireless telephone operating in a CDMA protocol; Streter: Col. 5, lines 30 – 39 and Col. 11, line 65 through Col. 12, line 3).

Regarding claim 15, Streter in view of APA as applied above discloses wherein said multiple wireless technologies correspond to multiple specific channels over which the network can issue pages and over at least one of which the particular mobile device being paged is capable of communicating (Streter: Col. 9, lines 24 – 56 and APA: Page 2, lines 25 – 28).

Regarding claims 16 and 26, the claims are interpreted and rejected for the same reason as set forth in claim 8.

Regarding claims 17 and 27, the claims are interpreted and rejected for the same reason as set forth in claim 9.

Regarding claim 18, the claim is interpreted and rejected for the same reason as set forth in claim 1.

Regarding claim 19, the claim is interpreted and rejected for the same reason as set forth in claim 2.

Regarding claim 20, the claim is interpreted and rejected for the same reason as set forth in claim 3.

Regarding claim 22, the claim is interpreted and rejected for the same reason as set forth in claim 5.

Regarding claim 23, the claim is interpreted and rejected for the same reason as set forth in claim 6.

Regarding claims 24 and 25, the claims are interpreted and rejected for the same reason as set forth in claim 7.

Regarding claim 28, the claim is interpreted and rejected for the same reason as set forth in claim 10.

4. Claims 11, 12 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Streter in view of the admitted prior art as applied to claim 7 above, and further in view of Corriveau et al. (US 5,918,177).

Regarding claim 11, Streter in view of APA as applied above discloses that the home MSC generates a control command for the dual-mode wireless telephone based at least partially on the information obtained from the home MSC relating to the technological capability of the mobile device (control processor (Fig. 1, 52) instructs the cell site processor (Fig. 2, 60) within the base station (Fig. 2, 22) to generate and transmit the control command to a selected dual-mode wireless telephones; Streter: Col. 10, lines 22 – 46 and Col. 11, line 58 through Col. 12, line 3 and APA: Page 2, lines 11 – 13).

However, Streter in view of APA as applied above does not specifically disclose wherein the MSC is a serving MSC of the mobile device, and wherein

the serving MSC determines when the mobile device has registered with the network comprising the serving MSC, and wherein the serving MSC obtains information relating to the technological capability of the mobile device from the home MSC of the mobile device, and wherein the serving MSC uses the information obtained by the home MSC when generating a page request for the mobile device that is based at least partially on the information obtained from the home MSC relating to the technological capability of the mobile device. In an analogous art, Corriveau remedies the deficiencies of Streter in view of APA by disclosing such limitation whereas the MSC-2 (serving MSC) receives a page from MS and identifies the page response as an unknown page response then MSC-2 sends a message to MSC-1 (home MSC) providing in the unsolicited response invoke message an expected service code parameter along with MSC-2's identification number, after MSC-1 compares the received information from MSC-2 and if there is a match MSC-1 grants access to MS by sending an unsolicited response return result message back to MSC-2 so that MSC-2 can grant the service to MS (Corriveau: Col. 4, lines 3 – 25 and lines 45 – 52). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the technique of Corriveau to the modified system of Streter in view of APA in order to provide an efficient way of expanding the service type of the MS throughout an extensive region rather than being limited to its home MSC and also to ensure that the user of the MS receives its services based on its capabilities.

Regarding claim 12, Streter in view of APA and further in view of Corriveau as applied above discloses wherein the paging request that is broadcast to mobile devices having the same technological capability of the mobile device being paged is first broadcast in a last zone in which the mobile device being paged registered with the network (Streter discloses that MTSSO (Fig. 1, 18) wirelessly sends a control command, in a paging channel, through one of the base stations (Fig. 1, 22 or 24,) to a group of dual-mode (CDMA/AMPS) wireless telephones using CDMA protocol; Streter, Col. 6, lines 50 – 54 and Col. 9, line 52 through Col. 10, line 21 and APA: Page 2, lines 11 – 13) and wherein the home MSC accesses this registration information and includes the registration information in the page request when the page request is generated (Corriveau, Col. 5, lines 22 – 51).

Regarding claim 29, the claim is interpreted and rejected for the same reason as set forth in claim 11.

Response to Arguments

5. Applicant's arguments filed on 2/14/2007 have been fully considered but they are not persuasive.

In response to applicant's arguments that the combination of Streter and the admitted prior art fails to teach "a paging request that is used to determine a geographic area that includes the mobile device". The examiner respectfully disagrees with the arguments presented by the applicant. The admitted prior art

clearly discloses the feature of using a paging request to determine a geographic area that includes the mobile device, moreover, as it has been pointed out by the applicant, paging messages are broadcast according to a particular paging technology, in addition Streter clearly discloses the limitations of determining which wireless technology corresponds to the mobile terminal and paging according to the corresponding wireless technology. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teaching of Streter to the admitted prior art in order to provide an effective method of locating a mobile terminal in a wireless network through a paging request whereas the paging request is directed to the mobile terminals according to the corresponding wireless technology.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

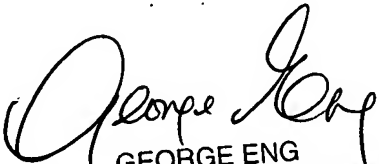
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Un C. Cho whose telephone number is (571) 272-7919. The examiner can normally be reached on M ~ F 8:00AM to 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Eng can be reached on (571) 272-7495. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Un C Cho
Examiner
Art Unit 2617

4/24/07 *uc*


GEORGE ENG
SUPERVISORY PATENT EXAMINER